Grant

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| [54]                                  | SAMPLE COLLECTOR |                            |       |
|---------------------------------------|------------------|----------------------------|-------|
| [75]                                  | Inventor:        | Douglas M. Grant, Lincoln, | Nebr. |
| [73]                                  | Assignee:        | ISCO, Inc., Lincoln, Nebr. |       |
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| [58] Field of Search                  |                  |                            |       |
| [56]                                  |                  | References Cited           |       |
| U.S. PATENT DOCUMENTS                 |                  |                            |       |
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| Primary Examiner—Houston S. Bell, Jr. |                  |                            |       |

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57] ABSTRACT

To collect a series of liquid samples each of which has a fixed volume in a corresponding series of sample bottles, a sample collector includes a control circuit that initiates the sampling at preset time intervals or each time a preset volume of liquid has flowed past the collector as indicated by a flow meter. To control the volume of each sample, an optical liquid interface detector within the flow passage of the sample collector initiates counting of the revolutions of the pump and after a pre-selected number of counts, the control circuit terminates the pumping. The optical liquid interface detector includes a light-emitting diode on one side of the flow passage and a phototransistor on the opposite side to detect the interface of the liquid.

10 Claims, 6 Drawing Figures

